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3M INNOVATIVE PROPERTIES COMPANY			ROSSI, JESSICA	
PO BOX 33427			ART UNIT	
ST. PAUL, MN 55133-3427			PAPER NUMBER	

1733

DATE MAILED: 05/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/687,027

Applicant(s)

ILKKA ET AL

Examiner

Jessica L. Rossi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2004, Election.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 13-25 is/are pending in the application.
- 4a) Of the above claim(s) 12 and 26-34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/20/04, 3/1/04, 4/4/05
- 4) ☒ Interview Summary (PTO-413)
Paper No(s)/Mail Date 03282005
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Claims 12 and 26-34 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected Species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 12/23/04.
2. Applicant's election with traverse of Species Aia and Aiiia in the reply filed on 12/23/04 and the Interview Summary dated 3/28/05 is acknowledged. The traversal is on the ground(s) that a search of the classes appropriate to the elected species would include the non-elected species. This is not found persuasive because the claims are directed to mutually exclusive species, as set forth in the restriction requirement, and Applicant has not challenged this position.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 6, 10, and 19-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Kiyoshi et al. (JP 02-147239; provided in IDS).

With respect to claim 1, Kiyoshi teaches a method of bonding glass comprising the steps of providing a tape comprising an acrylic PSA polymer, applying a silane to the surface of the

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tape (note polysiloxane is derived from silane and therefore comprises silane), and contacting the bonding surface of the tape with glass (abstract and oral translation).

Regarding claims 6, 10 and 19-22, the reference teaches such.

5. Claims 1, 13, 18 are 21-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Hitschmann et al. (EP 0889105; provided in IDS).

With respect to claim 1, Hitschmann teaches a method of bonding glass comprising the steps of providing a tape comprising an acrylic PSA polymer, applying a silane to the surface of the tape, and contacting the bonding surface of the tape with glass (abstract; p. 5, lines 17-21; p. 7, lines 35-36; p. 10, lines 50-51; p. 12, lines 37-38).

Regarding claim 13, the reference teaches such (p. 10, lines 33-40).

Regarding claim 18, the reference teaches such (p. 13, lines 8-10).

Regarding claims 21-23, the reference teaches such (p. 7, lines 49 and 56).

6. Claims 1, 16 and 18-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Gerace (US 4581281).

With respect to claim 1, Gerace teaches a method of bonding glass comprising the steps of providing a tape comprising an acrylic PSA polymer ("primary pressure-sensitive adhesive"; column 2, lines 52-59; column 3, lines 20-28; column 3, line 40), applying a silane to the surface of the tape ("secondary pressure-sensitive adhesive"; column 3, lines 43-46; column 2, lines 64-68; column 3, line 8; column 3, lines 43-46; column 4, lines 14-31), and contacting the bonding surface of the tape with glass (column 1, lines 20-23; column 2, lines 26-32).

Regarding claim 16, the reference teaches such (column 2, line 58; column 3, lines 26 and 45-46).

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Regarding claim 18, the reference teaches such (column 2, lines 25-32).

Regarding claims 19-20, the reference teaches such.

Regarding claims 21-22, the reference teaches such (column 4, lines 29-31).

7. Claims 1, 4, 6-7 are 16-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Johnson et al. (US 6284360).

With respect to claim 1, Johnson teaches a method of bonding glass comprising the steps of providing a tape comprising an acrylic PSA polymer (core layer 14), applying a silane to the surface of the tape (bonding layer 16), and contacting the bonding surface of the tape with glass (Figure 3; column 3, lines 42-49; column 5, lines 8-11; column 7, lines 45-46; column 9, lines 31-36 and 52 and 61-62; column 16, lines 48-63; column 17, lines 42-65).

Regarding claims 4, 7 and 17, the reference teaches such (column 3, lines 42-49; column 7, lines 47-56; column 9, lines 31-36).

Regarding claim 6, the reference teaches such (Figure 3).

Regarding claim 16, the reference teaches such (column 17, lines 50-52).

Regarding claim 18, the reference teaches such (column 5, lines 9-11).

Regarding claims 19-20, the reference teaches such.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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9. Claims 2-3, 5, 11 and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kiyoshi et al. as applied to claim 1 above.

Regarding claim 2, selection of an average molecular weight would have been within purview of the skilled artisan.

Regarding claim 3, incorporating pigments and/or colorants into a PSA composition is well known and conventional and therefore it would have been obvious to do this to the PSA of Kiyoshi to give it a desired color for aesthetic or practical purposes; especially since the tape is used for marking.

Regarding claim 5, selection of a particular thickness would have been within purview of the skilled artisan.

Regarding claim 11, the reference teaches the silane being wet when the bonding surface contacts the glass and therefore the tape would be moveable on the glass wherein the skilled artisan would logically move the tape around until it is properly positioned.

Regarding claims 24-25, it is notoriously well known and conventional to provide hydrophilic coatings on glass surfaces to impart desired properties thereto. It would have been obvious to the skilled artisan at the time of the invention to provide such a coating on the glass substrate of Kiyoshi for this reason.

10. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kiyoshi et al. as applied to claim 1 above, and further in view of Hitschmann et al.

Regarding claim 13, it would have been obvious to provide the silane in a solution of alcohol and water because such is known in the art, as taught by Hitschmann (column 35-45)

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wherein the solvent serves as a carrier for the silane and allows for the same to be coated onto the surface of the tape.

11. Claims 2-3, 5, 14-15 and 24-25 rejected under 35 U.S.C. 103(a) as being unpatentable over Hitschmann as applied to claim 1.

Regarding claim 2, selection of an average molecular weight would have been within purview of the skilled artisan.

Regarding claim 3, incorporating pigments and/or colorants into a PSA composition is well known and conventional and therefore it would have been obvious to do this to the PSA of Hitschmann to give it a desired color for aesthetic or practical purposes; especially since the reference teaches the PSA including pigments and colorants (p. 6, lines 42-43).

Regarding claim 5, selection of a particular thickness would have been within purview of the skilled artisan.

Regarding claim 14, whether to apply the silane to the tape before or after applying the tape to the substrate would have been within purview of the skilled artisan because only the expected results would have been achieved.

Regarding claim 15, the reference teaches such (p. 13, lines 35-36).

Regarding claims 24-25, it is notoriously well known and conventional to provide hydrophilic coatings on glass surfaces to impart desired properties thereto. It would have been obvious to the skilled artisan at the time of the invention to provide such a coating on the glass substrate of Kiyoshi for this reason.

12. Claims 2-3, 5 and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gerace as applied to claim 1 above.

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Regarding claim 2, selection of an average molecular weight would have been within purview of the skilled artisan.

Regarding claim 3, incorporating pigments and/or colorants into a PSA composition is well known and conventional and therefore it would have been obvious to do this to the PSA of Gerace to give it a desired color for aesthetic or practical purposes.

Regarding claim 5, selection of a particular thickness would have been within purview of the skilled artisan.

Regarding claim 23, selection of a particular epoxy silane would have been within purview of the skilled artisan; it being noted that Applicant's claimed silane is known, as taught by Hitschmann (p. 7, lines 55-56).

Regarding claims 24-25, it is notoriously well known and conventional to provide hydrophilic coatings on glass surfaces to impart desired properties thereto. It would have been obvious to the skilled artisan at the time of the invention to provide such a coating on the glass substrate of Gerace for this reason.

13. Claims 2-3, 5, 8-9 and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al. as applied to claim 1 above.

Regarding claim 2, selection of an average molecular weight would have been within purview of the skilled artisan.

Regarding claim 3, incorporating pigments and/or colorants into a PSA composition is well known and conventional and therefore it would have been obvious to do this to the PSA of Johnson to give it a desired color for aesthetic or practical purposes.

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Regarding claim 5, selection of a particular thickness would have been within purview of the skilled artisan.

Regarding claim 8, selection of a particular density for the foam would have been within purview of the skilled artisan.

Regarding claim 9, it would have been obvious to include microspheres in the foam because such is a well known and conventional means for decreasing the density of the foam, wherein selection of a particular type of microspheres would have been within purview of the skilled artisan.

Regarding claims 24-25, it is notoriously well known and conventional to provide hydrophilic coatings on glass surfaces to impart desired properties thereto. It would have been obvious to the skilled artisan at the time of the invention to provide such a coating on the glass substrate of Johnson for this reason.

14. Claims 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al. as applied to claim 1 above, and further in view of Gerace.

Regarding claims 21-23, Johnson teaches silane (column 17, lines 60-65) wherein selection of a particular silane would have been within purview of the skilled artisan. However it would have been obvious to use an epoxy silane because such is known in the art, as taught by Gerace (column 4, lines 14-31).

15. Claims 1-3, 5, 10-11, 18, 20-22 and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Downing (US 1337541; provided in IDS) in view of Husemann et al. (US 6753079) and Johnson et al.

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With respect to claim 1, Downing teaches a method of bonding glass comprising the steps of providing a tape comprising an acrylic adhesive polymer, applying a silane to the surface of the tape, and contacting the bonding surface of the tape with glass (p. 2, lines 20-35; p. 3, line 91 – p. 4, line 14). The reference teaches the adhesive being a hot melt but is silent as to it being pressure sensitive.

It is known in a variety of arts to use hot melt acrylic adhesives that are also pressure sensitive wherein such adhesives advantageously combine the properties of hot melts and PSA's, as taught by Husemann (abstract; column 1, lines 10-23). Therefore, it would have been obvious to the skilled artisan to use the hot melt acrylic adhesive of Downing in the form of a pressure sensitive hot melt because such is known, as taught by Husemann, wherein the pressure sensitive properties allow for the adhesive to be temporarily adhered to the substrate and therefore accurately placed before melting the adhesive to form a permanent bond; especially since it is known to use an acrylic PSA to bond glass to another substrate, as taught by Johnson (see paragraph 7 above for complete discussion).

Regarding claim 2, selection of an average molecular weight would have been within purview of the skilled artisan.

Regarding claim 3, incorporating pigments and/or colorants into a PSA composition is well known and conventional and therefore it would have been obvious to do this to the PSA of Downing to give it a desired color for aesthetic or practical purposes.

Regarding claim 5, selection of a particular thickness would have been within purview of the skilled artisan.

Regarding claim 10, Downing teaches such (p. 3, lines 128 – p. 4, line 13).

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Regarding claim 11, Downing teaches the silane being wet when the bonding surface contacts the glass and therefore the tape would be moveable on the glass wherein the skilled artisan would logically move the tape around until it is properly positioned.

Regarding claim 18, Downing teaches such (p. 4, lines 93-107).

Regarding claim 20, Downing teaches such.

Regarding claims 21-22, Downing teaches such (p. 3, lines 100-105).

Regarding claims 24-25, it is notoriously well known and conventional to provide hydrophilic coatings on glass surfaces to impart desired properties thereto. It would have been obvious to the skilled artisan at the time of the invention to provide such a coating on the glass substrate of Downing for this reason.

16. Claims 13 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Downing and Husemann et al. as applied to claim 1 above, and further in view of Hitschmann.

Regarding claim 13, Downing teaches providing the silane in a solution wherein the skilled artisan reading the reference as a whole would have appreciated a particular solution not being critical to the invention (p. 3, lines 113-130). Therefore, it would have been obvious to provide the silane in a solution of alcohol and water because such is known in the art, as taught by Hitschmann (column 35-45).

Regarding claim 23, Downing teaches a variety of silanes (p. 3, lines 103-112) and therefore it would have been obvious to use Applicant's claimed silane because such is known in the art, as taught by Hitschmann (p. 7, lines 55-56).

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17. Claims 1-11, 13-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Khandpur et al. (WO 01/57152; provided in IDS) in view of the collective teachings of Hitschmann et al. and Downing.

With respect to claim 1, Khandpur teaches a method of bonding glass comprising the steps of providing a tape comprising an acrylic PSA polymer and contacting the bonding surface of the tape with glass (p. 3, lines 15-22; p. 4, lines 7-10; p. 15, lines 3-17). The reference is silent as to applying a silane to the surface of the tape before contacting the bonding surface with the glass.

It is noted that Khandpur uses the disclosed method for bonding glass in the automotive industry (p. 15, lines 8-12). It is known in the automotive industry to applying a silane to the surface of a pressure sensitive acrylic adhesive to form a bonding surface and then contacting the bonding surface with the glass, as taught by the collective teachings of Hitschmann (see paragraph 5 above) and Downing (see paragraph 15 above), wherein the silane improves the strength of the bond between the glass and the adhesive.

Therefore, it would have been obvious to the skilled artisan at the time of the invention to apply a silane to the surface of the acrylic pressure sensitive adhesive of Khandpur to form a bonding surface and then contact the bonding surface to the glass, as taught by the collective teachings of Hitschmann and Downing, because this improves the strength of the bond between the glass and adhesive.

Regarding claim 2, selection of an average molecular weight would have been within purview of the skilled artisan.

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Regarding claim 3, incorporating pigments and/or colorants into a PSA composition is well known and conventional and therefore it would have been obvious to do this to the PSA of Khandpur to give it a desired color for aesthetic or practical purposes; especially since the reference teaches the PSA including pigments and colorants (p. 23, lines 22-25).

Regarding claims 4, 6-7, 9 and 17, Khandpur teaches such (p. 3, lines 15-22; p. 4, lines 7-10; p. 7, lines 11-13; p. 15, lines 15-20).

Regarding claim 5, selection of a particular thickness would have been within purview of the skilled artisan.

Regarding claim 8, Khandpur teaches the core being acrylic foam wherein a particular density would have been within purview of the skilled artisan (p. 15, lines 15-20).

Regarding claims 10-11, Downing teaches the silane being wet (p. 3, lines 128 – p. 4, line 13) and therefore the tape would be moveable on the glass wherein the skilled artisan would logically move the tape around until it is properly positioned.

Regarding claim 13, it would have been obvious to provide the silane in a solution of alcohol and water because such is known in the art, as taught by Hitschmann (column 35-45) wherein the solvent serves as a carrier for the silane and allows for the same to be coated onto the surface of the tape.

Regarding claim 14, whether to apply the silane to the tape before or after applying the tape to the substrate would have been within purview of the skilled artisan because only the expected results would have been achieved.

Regarding claim 15, Khandpur teaches such (p. 15, lines 10-12).

Regarding claim 16, Khandpur teaches such (p. 4, lines 1-3).

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Regarding claim 18, the reference teaches such (p. 9, lines 18-20).

Regarding claims 19-20, the reference teaches such (p. 6, lines 29-31).

Regarding claims 21-23, the collective teachings of Hitschmann and Downing teach such.

Regarding claims 24-25, it is notoriously well known and conventional to provide hydrophilic coatings on glass surfaces to impart desired properties thereto. It would have been obvious to the skilled artisan at the time of the invention to provide such a coating on the glass substrate of Khandpur for this reason.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Jessica L. Rossi** whose telephone number is **571-272-1223**. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine R. Copenheaver can be reached on 571-272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

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Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jessica L. Rossi
Art Unit 1733